North Carolina's bay scallop stocks are listed as concern, because of declining harvest levels. Species are designated by the DMF as concern because of incomplete or unavailable stock assessments, or because of indirect influences such as disease, habitat degradation, weather, or the nature of the fishery (i.e., roe fisheries). Since bay scallops are considered an annual crop, a stock assessment cannot be completed. The population size is regulated by environmental conditions, and although fishing effort reduces the population size over the season, fishing effort usually does not impact the subsequent year class strength unless the spawning stock is reduced below a minimum threshold level. Annual commercial landings are probably a good indication of relative abundance with variation caused by a combination of both fishing effort and environmental change.

The bay scallop population in North Carolina was decimated by a red tide event (*K. brevis*) in October of 1987. During that time the bay scallop fishery decreased to less than 15% of the historical average (1965-1986) with the largest losses occurring in Bogue Sound, followed by Back Sound and Core Sound. Slow recovery from this decline suggests that bay scallops in North Carolina are recruitment limited within the different water basins (Peterson and Summerson 1992). Recently, bay scallop populations in both Core Sound and Bogue Sound have become virtually non-existent largely due to heavy predation by cownose rays (*R. bonasus*) in the fall, (Powers and Gaskill 2005).

III. DISCUSSION

Harvest seasons, trip limits, and gear limitations have been the management measures used by DMF for bay scallops. One management approach is *status quo*, which would leave the management measures in place. The DMF currently reviews landings (commercial) and environmental factors annually for the MFC stock status report. This past year (2006), DMF took action not to open the harvest season for bay scallops both recreationally or commercially due to low abundance indices in 2005.

A stepwise tactic for management decisions is another approach for bay scallop management. The stepwise approach is two-fold: 1. requires establishing specific triggers to increase management measures if the annual landings go below a selected threshold, and ; 2. implement regulations to ensure that harvest either does not occur or remains very low over a period of time before permitting fishing to return to sustainable levels.

Step 1: Establish specific triggers for increased management measures

This option would establish a threshold based on either landings or an independent index over a particular time period. One of the biggest difficulties with this method is choosing the most accurate data collection method that is a true reflection of abundance of the species through a long enough time series. The only independent index of abundance has only had consistent sampling since 1998 and will not provide a long enough time series to determine a threshold. Commercial landings are the only information available that covers an adequate time period and are a general reflection of relative annual bay scallop abundance.